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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/003,428	12/06/2001	Katsuji Hattori	OGOH : 071A	6273

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EXAMINER

CHUNG, DAVID Y

ART UNIT

PAPER NUMBER

2871

DATE MAILED: 06/10/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/003,428

Applicant(s)

HATTORI ET AL.

Examiner

David Y. Chung

Art Unit

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— The MAILING DATE of this communication appears on the cover sheet with the correspondence address —

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 February 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 33-40 and 50-52 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 39 and 40 is/are allowed.
- 6) ☒ Claim(s) 33, 34, 36 and 37 is/are rejected.
- 7) ☒ Claim(s) 35, 38 and 50-52 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 09/806,230.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 33 and 34 rejected under 35 U.S.C. 102(b) as being anticipated by Okamoto et al. (U.S. 5,825,445). Okamoto et al. discloses a conventional OCB mode liquid crystal display in figures 2a, 2b, and 2c. The alignment films in this device were typically oriented by a rubbing treatment, which would have caused the thickness of the alignment layers to become non-uniform and the surfaces to have an irregular configuration. Okamoto et al. discloses that when no voltage is applied to the electrodes, the liquid crystal layer presents a splay alignment as shown in figure 2a. When a voltage is applied, the liquid crystal layer transitions to a bend alignment as shown in figures 2b and 2c. See column 1, lines 36 – 55.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 36 rejected under 35 U.S.C. 103(a) as being unpatentable over Okamoto et al. (U.S. 5,825,445). Okamoto et al. does not disclose a flattening film on the array substrate. However, it was well known and obvious that rubbing was more easily performed on a flat surface. A flattening film on the array substrate caused the surface of the alignment layer to be flat, allowing it to be rubbed easily. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to form a flattening film in the conventional OCB device disclosed by Okamoto et al. so that the alignment layers could be rubbed easily. The pattern formed on the alignment layer by the rubbing treatment would be different from the pattern formed on the array substrate by the thin-film transistors, gate lines, data lines, and pixel electrodes.

3. Claim 37 rejected under 35 U.S.C. 103(a) as being unpatentable over Okamoto et al. (U.S. 5,825,445) in further view of Nagata et al. (U.S. 6,400,437). Okamoto et al. does not disclose a reflecting surface having an irregular configuration. However, reflective displays with an uneven light-reflecting layer were well known and obvious for their efficient use of ambient light and low power consumption as evidenced by the background disclosure of Nagata et al. See column 1, lines 10-25. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to form an irregular reflecting surface in the conventional OCB device disclosed by Okamoto et al. in order to achieve low power consumption and more efficient use of ambient light.

Response to Arguments

4. Applicant's arguments filed February 27, 2003 have been fully considered but they are not persuasive. A rubbing treatment on an alignment layer creates a plurality of grooves, making the thickness of the alignment layer non-uniform across its surface. Although applicant has argued that the irregular configuration is formed in addition to the rubbing treatment, this is not made clear in claims 33, 34, 36 and 37.

Allowable Subject Matter

5. Claims 39 and 40 allowed.

Claims 35, 38 and 50-52 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.


The following is a statement of reasons for the indication of allowable subject matter: none of the prior art taught or suggested an optically compensated bend mode liquid crystal display device with an alignment layer having an irregular surface configuration formed in addition to a rubbing treatment.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Chung whose telephone number is (703) 306-0155. The examiner can normally be reached on Monday-Friday from 8:30 am to 5:00 pm.


David Chung
GAU 2871

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05/30/03